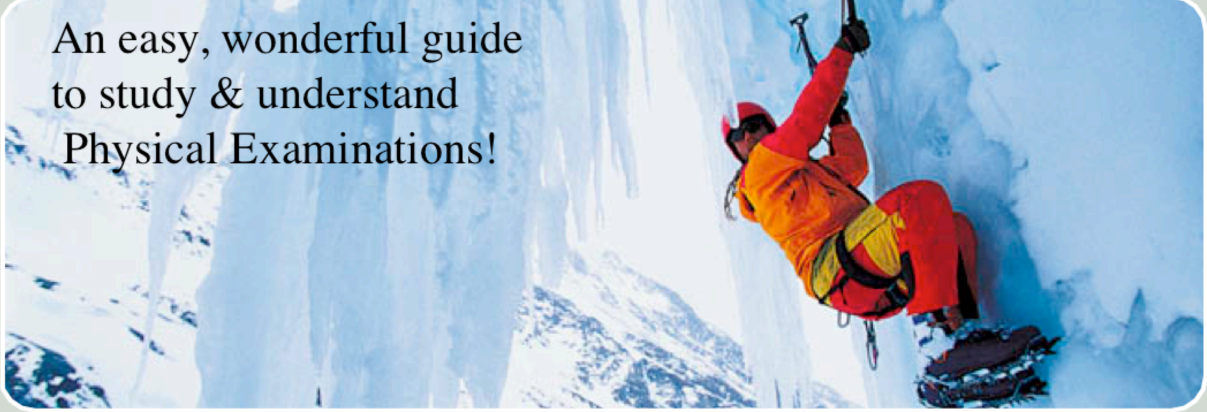


Illustrated Physical Examinations Guide





Re-drawen and created by

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some pictures inspirated and created by

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This Edition contains the following examinations: Neurological (lower limb), Vascular, Breast & Axillary lymph nodes, and Ulcer which created & drawn by

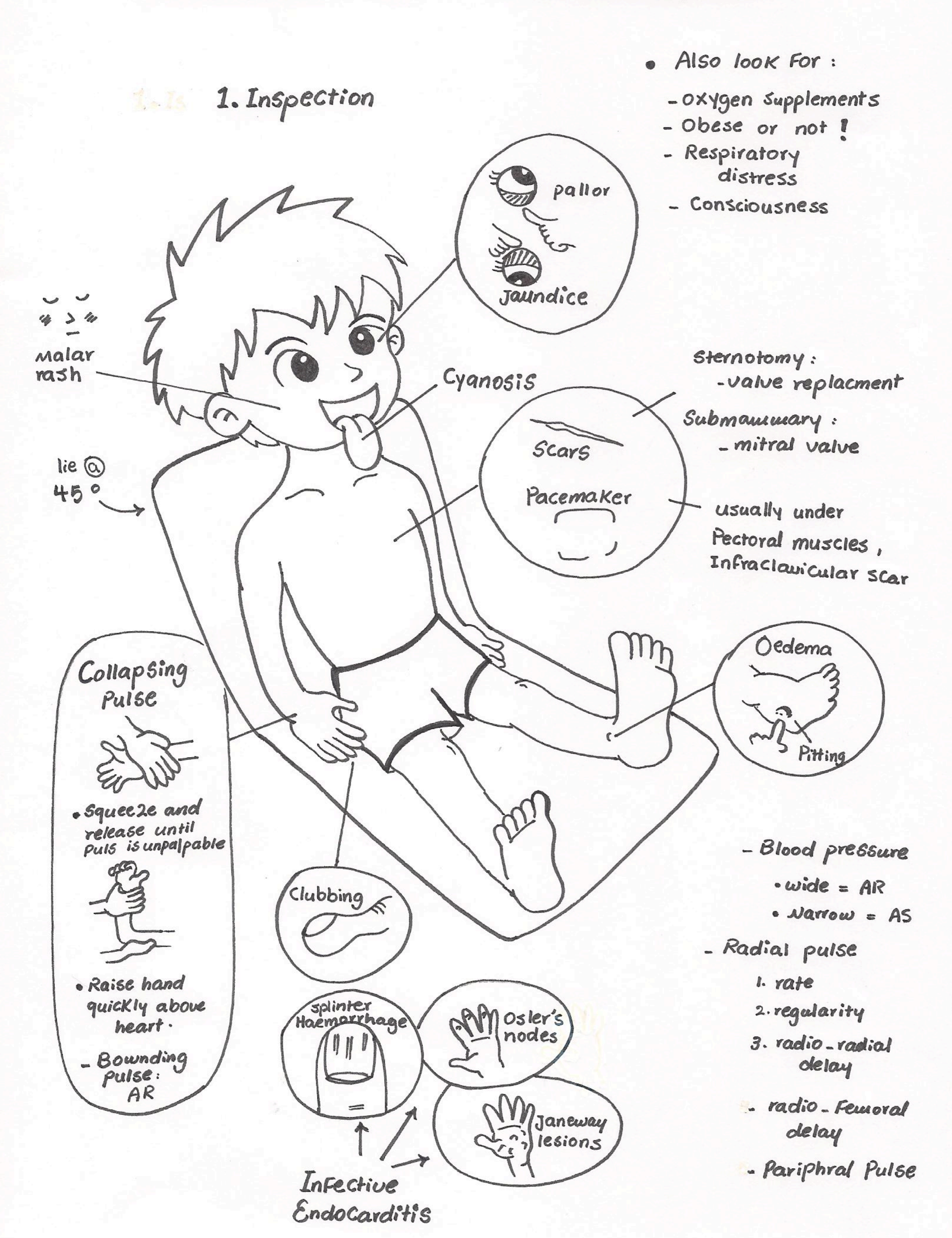
Haneen Al-Maghrabi

Other examinations: Respiratory, Cardiovascular, Gastrointestinal and neuological (CN and Upper limb) systems are created & drawn by

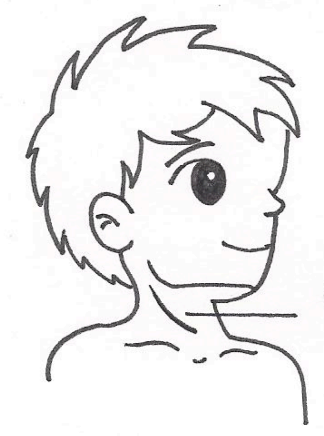
Lucci Lugee Liyeung

and you can find them at her website, or on the internet

Cardiovascular Examination



Carotid pulse





Medial to Sternocleido-mastoid muscle @ level of thyroid Cartilage

- Never palpate both Carotid.
- Imp. to tell about aorta and LV function.
- N.B:
  - Rapid outward mov.
  - one peak / H.B
  - Palpable
  - Independent of respiration

1. Character
   Slow raising : AS / Collapsing : AR
2. Volume : Increase / decrease
3. Condition of vessel wall

JVP

look left

medial to SCM
(> 5 cm From sternal angle = R.♡ failure)

2 - Perpendicular rulers to find out the level of the JVP From the sternal angle.
→ Assumed to be 5 cm above Right atrium.

1. Height :
2. Character :

A C X V X Y

- Canon a wave : Complete ♡ Block
- Gaint a wave : Pulm. HTN
- large v wave : TR
- Absent a wave : AF

Abdomenojagular reflux :
- Inform the Patient First !
- Press the abdomen For 15 sec.
- JVP rise and Fall with in 2 sec.
  (X Fall = R.♡ failure).

2. Palpation

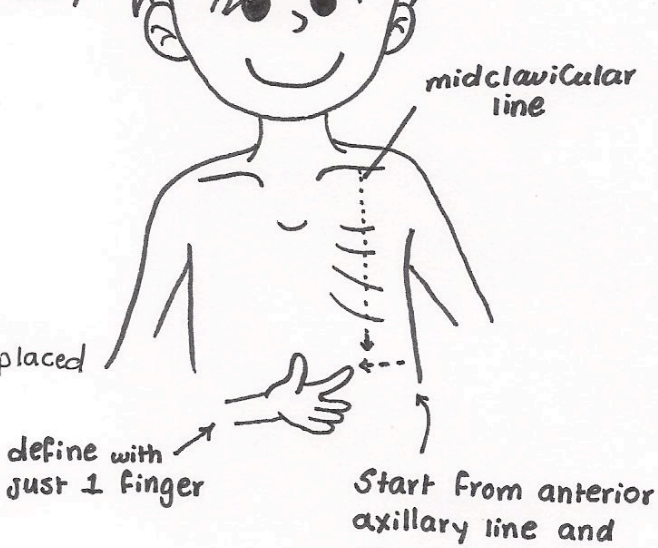
A) Apex beat

= most latlar and inferior point

1) Hight = medial to mid-clavicular line, 5th Intercostal space.

2) Character:

- Tapping = MS
- Hyperdynamic = AS
  Pressure overload : Forcefaul
- Hypervolaemic = AR / MR
  Volume overload : Forceful + displaced

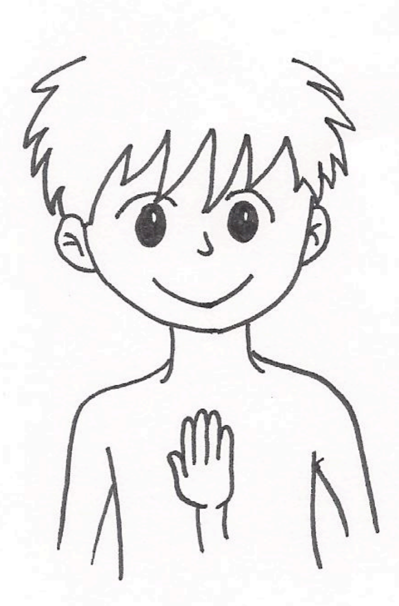


* If can't feel, turn to left decubitus / feel right side.

B) Parasternal Heave

= Place your palm on the left side of the Sternum (move it up and down).

= In : - Pulmonary HTN
- Right ventricle Hypertrophy / dilatation.



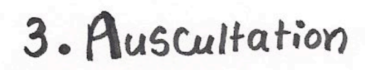
C) Thrills

= Palpable murmur @ apex / parasternal / ♡ base

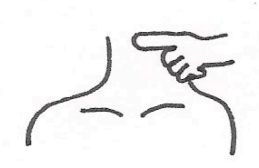
= when present, murmur > Grade 4

Source : Canvas to my Inspirations
by : Lucci Lugee Liyeung

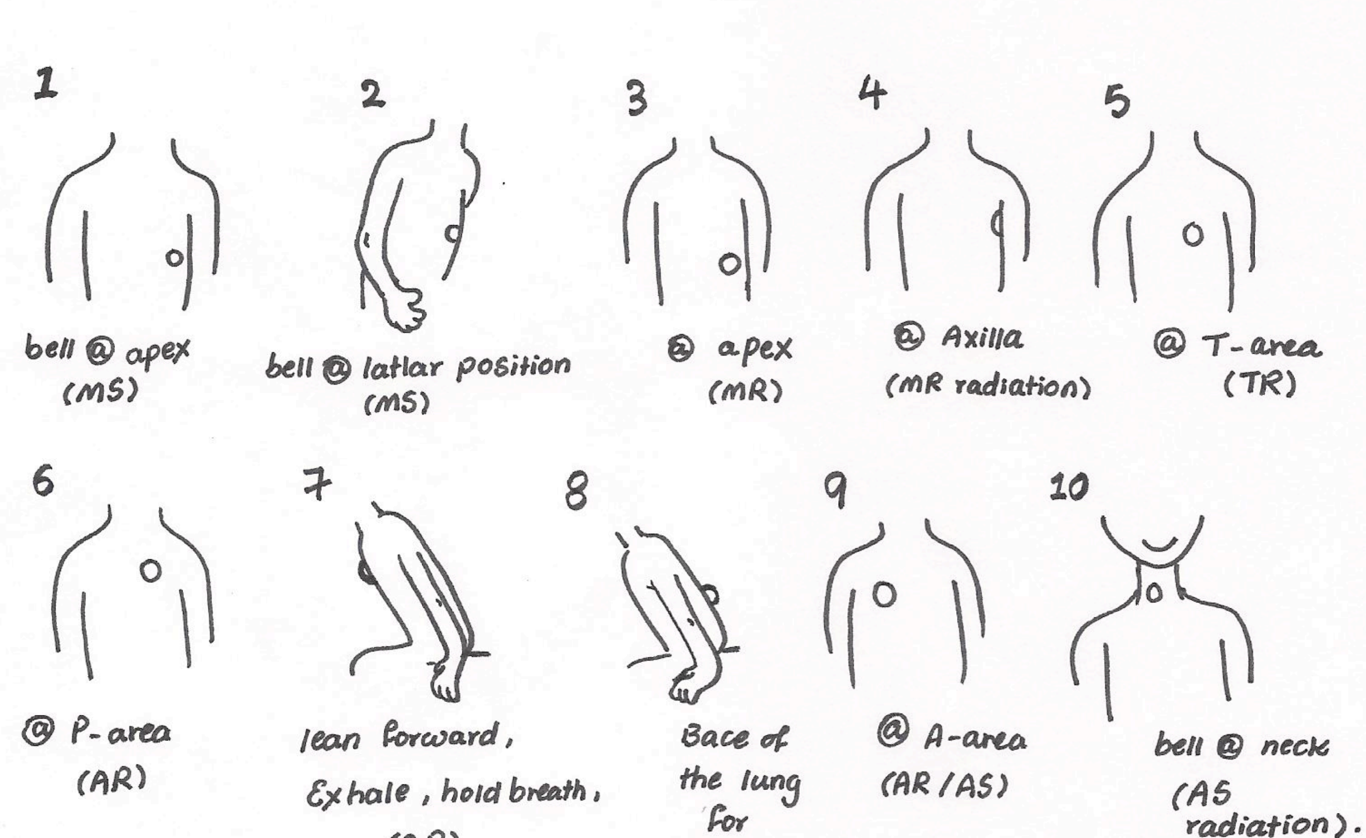
Done by: Haneen Al-Maghrabi



3. Auscultation



Palpate Carotid pulse to diffrentiate S_1 and S_2



- Describing Findings:
  1) Heart Sound : $S_1 + S_2$
  2) Murmur : 1) Phase 2) Best heard @ ... 3) maneuver to ↑ 4) Radiation 5) Thrill (+ve ≥ grade 4 / -ve < Grade 3)
  3) other added Sounds.

* don't forget to auscultate with (Respiration , valsalva maneuver , hand grip)

4) complete your Exam :
- Back : auscultate the base of lung (crackles in HF)
- Abdomen : Hepatomegaly , Splenomegaly , Ascites
- lower limbs : oedema , DVT

Respiratory Examination

1. Inspection

- pallor
- Horner's Syndrome (Constricted pupil)

Facial plethora (Smoker / SUCO)

Cyanosis

Nicotine Stain

- Flapping tremor
- warm, sweaty
- bounding Pulse

} CO_2 retent^n

- clubbing
- Osteotrophicarthropathy
- wasting muscle (small one).
- Pariphral pulse.

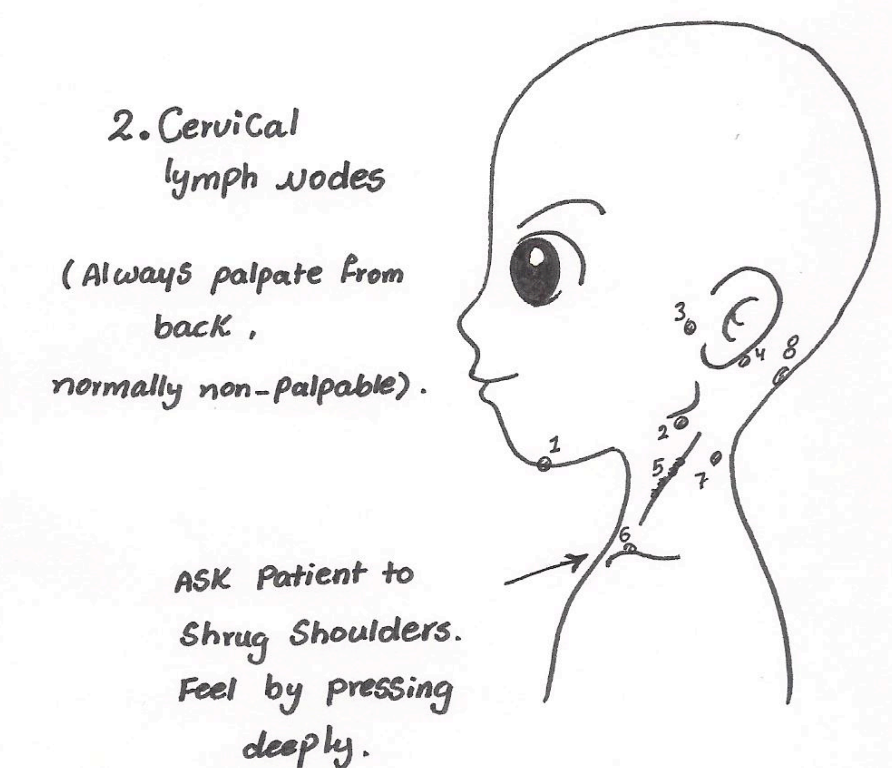
- walk to End of the bed, check:
  1. chest Expanssion
  2. respiratory rate (10-20 / min).
  3. respiratory rhythm

- Scars (latlar, under breast).
- barrel chest (asthma, Emphasema)
- pectus carniatum / Excavatum.

- Ankle oedema

2. Cervical lymph nodes

(Always palpate from back, normally non-palpable).



ASK Patient to Shrug Shoulders. Feel by pressing deeply.

1. Submental
2. Submandibular
3. Preauricular
4. Postauricular
5. Jugular Chain
6. Supraclavicular
7. Posterior triangle
8. Occipital

3. Palpation

a) Trachea



Slightly Flexed neck

- Index and ring finger = End of the Clavical

- middle finger = behind Suprasternal notch

=> Palpate trachea deviation from the middle line

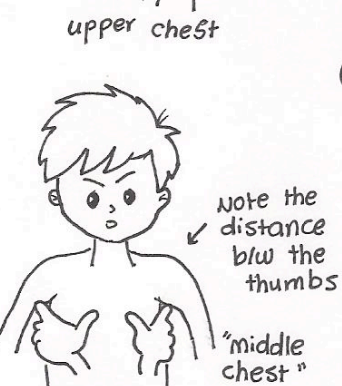
b) Apex beat

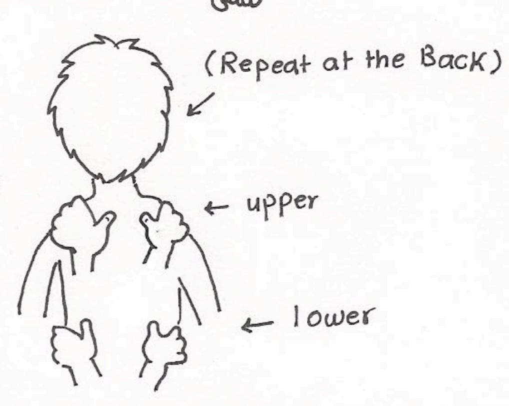
- To determine the mediastinal shift of the lower mediastinum
- displaced in hyperinflated chest

c) chest Expansion



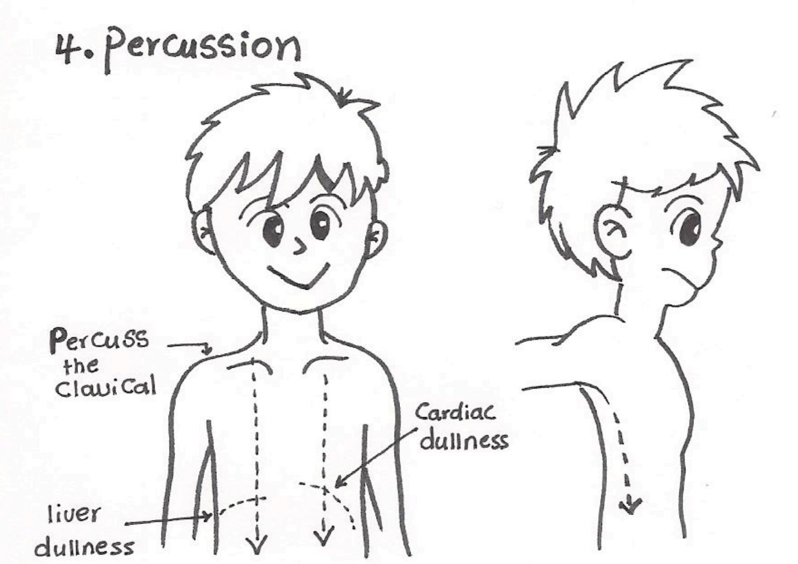
Note the raise and Fall of the chest.

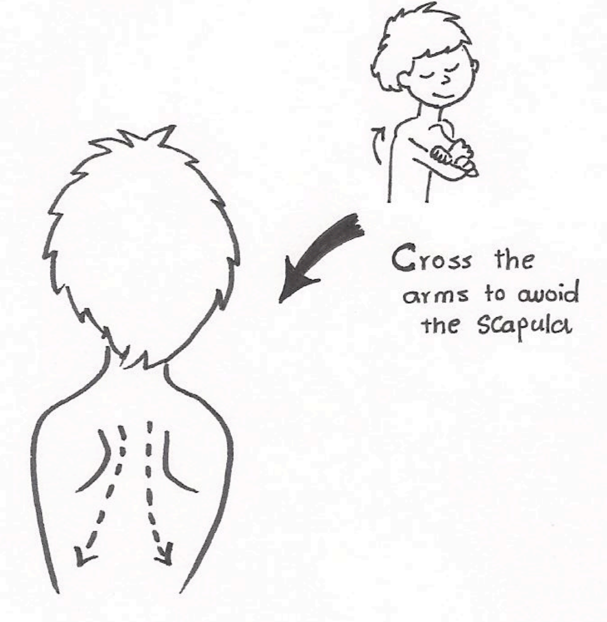




[All Done in both full Expiration and full Inspiration].

4. Percussion





1. Anterior

Compare left and right lung @ each level

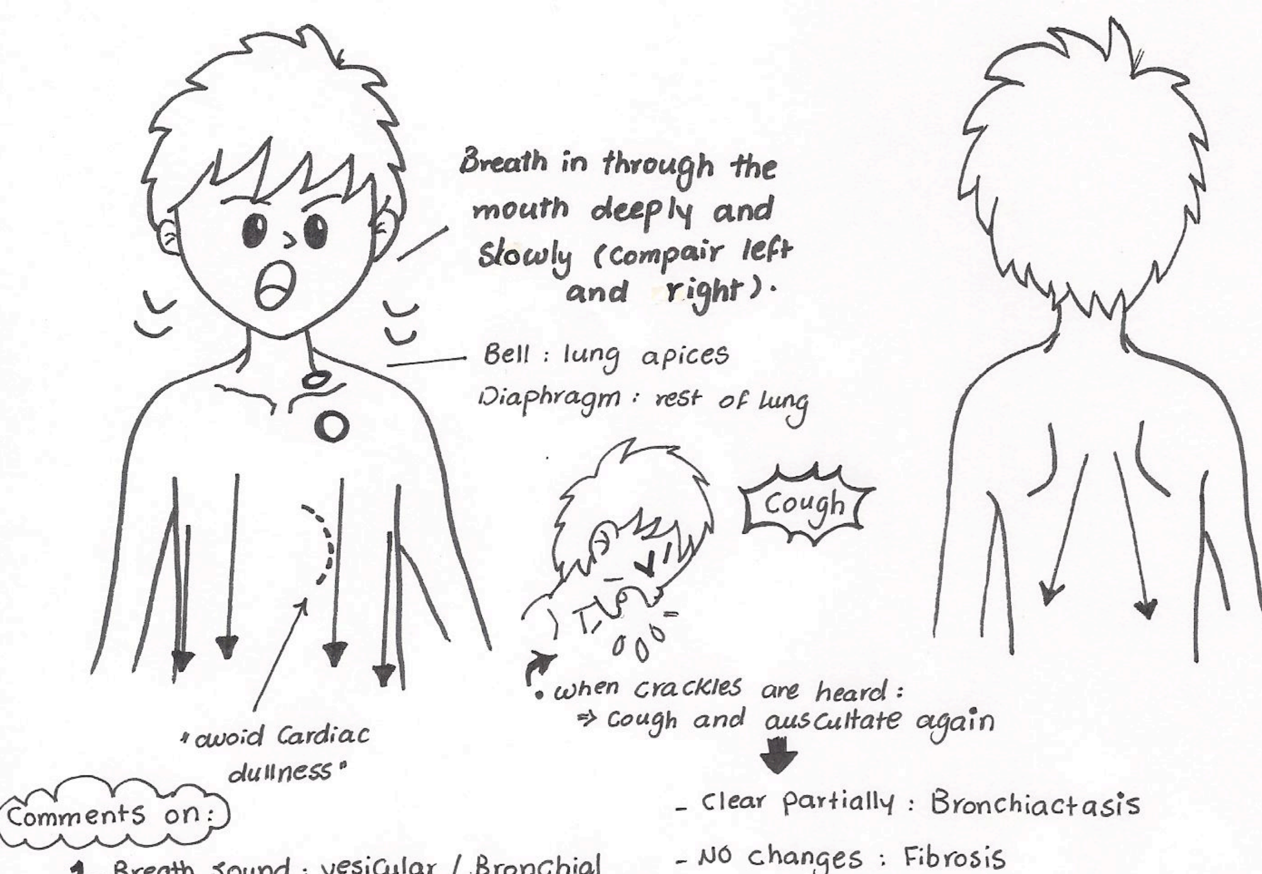
2. Later

throw the mid-axillary line

3. Posterior

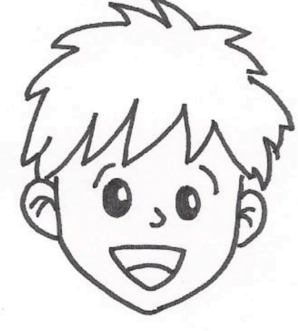
Start at the midline border of the Scapula

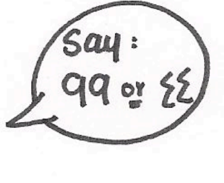
4. Auscultation : Breath Sound



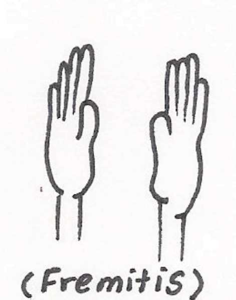
Comments on:

1- Breath sound : vesicular / Bronchial (and intensity)
2- Air entry (Symetrical) / 3- Any Added sounds : (wheeze / stridor / crackles).









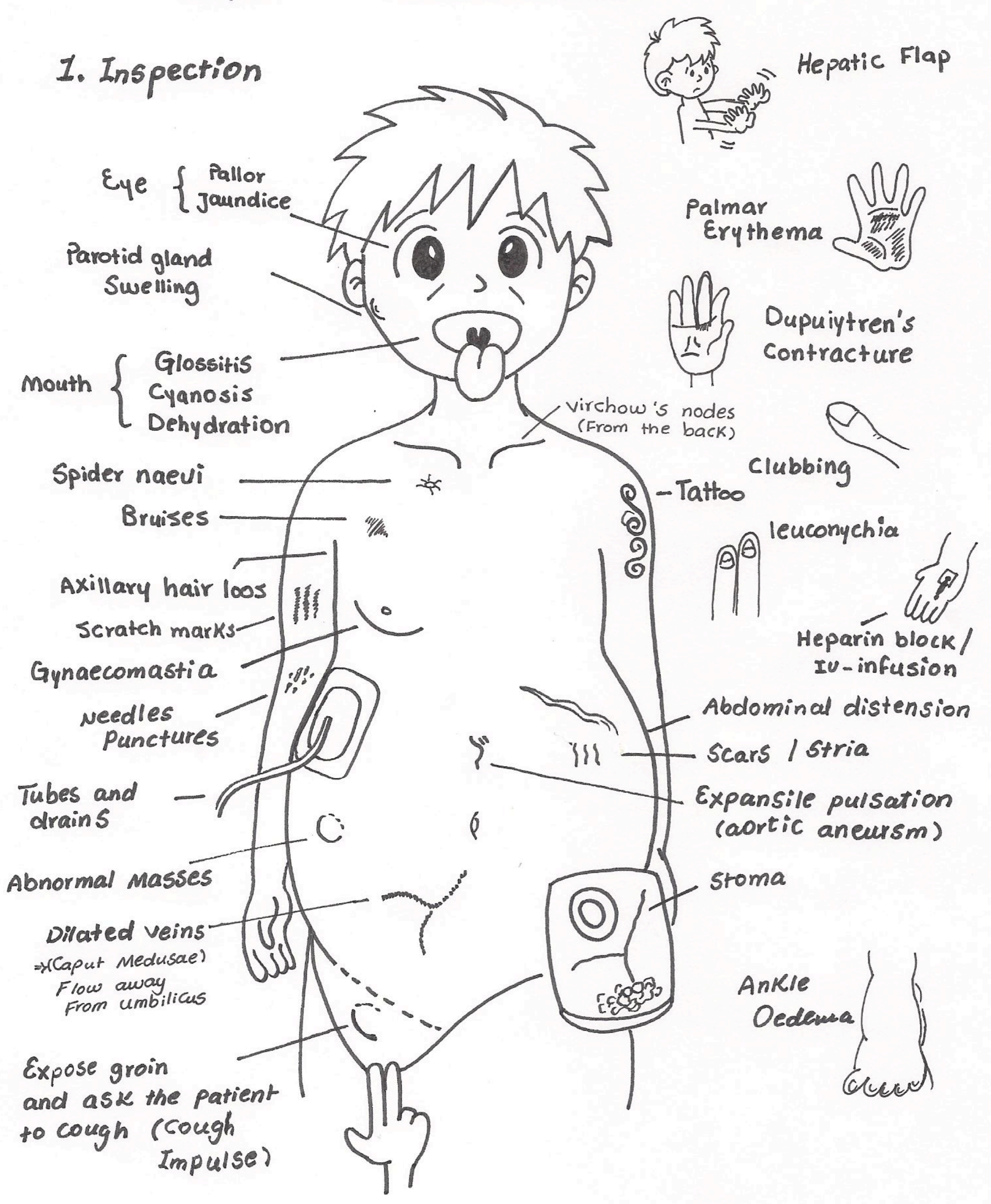
5. Vocal Resonance / Fremitis

(along the same path as auscultation).

Source : Canvas to my Inspirations, by Lcci Lugee Liyeung

Done by : Haneen Al. Maghrabi

GI - Examination



* lie the Patient flat on one Pillow, hands on the sides.
* Proper exposure : from the nipple to the mid thigh / top of pubic hair
* Inspect the Abdomen from the end of the bed, ask the Patient to take a deep breath.

2. Palpation

look at the Patient's face (clues for tenderness).

make your hand warm

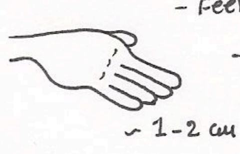
Palpate all the quadrants in turn, start further away from painful area.

arms at the level of the abdomen.

Kneel down

light Palpation

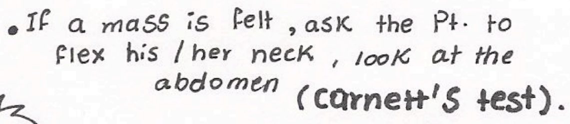
- Flex MP joints
- feel with Pulp of fingers



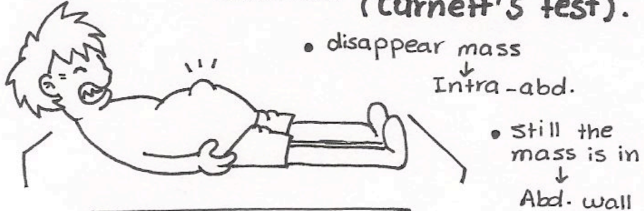
- look For:
  - Tenderness
  - rebound tend.
  - guarding

Deep palpation

- Organomegaly
- deep seated masses



- If a mass is felt, ask the Pt. to flex his / her neck, look at the abdomen **(Carnett's test).**



3. liver

Palpation

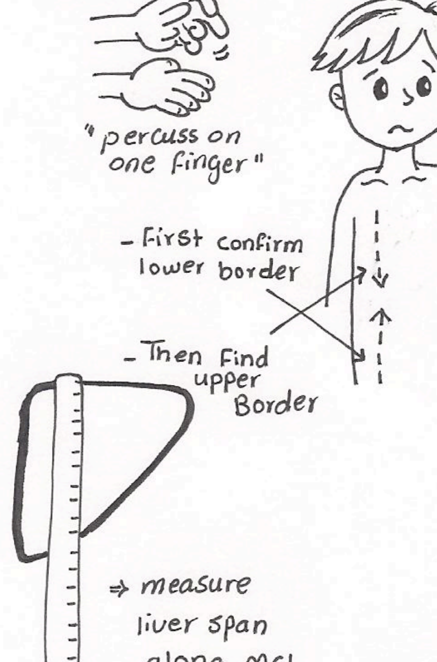
Inspire and Expire

along MCL

⇒ Start at RIF, Press firmly during inspiration, feel for liver hitting.

⇒ move up during Expiration.

Percussion



⇒ measure liver span along MCL

4. Spleen Examination

Spleen Exams
suggest : percussion (First) → (+) → palpation; (−) → that's it U/S.
when percussion is positive

How to Examine the Spleen

Gen:
- Patient's upper body uncovered (cover women's breast with a folded towel). Legs should be covered till symphysis pubis (groin exposed).
- Stand on patient's right.

Inspection: Supine pt. Look for fullness in the LUQ (left upper quadrant)

Percussion: 3 methods ?

spec 90% sens 60% ***Nixon's method***: Patient in rt. Decubitus position.
Find out the mid point of lt. Costal margin
Start percussing at that point and percuss along a line, perpendicular to left costal margin
If dullness felt for more than 8cm, spleen is enlarged.

83% sens 82% ***Castell's Method***: patient supine
Percuss at the lowest ICS in left ant. Axillary line.
Percuss in expiration and full inspiration both.
Normally no dullness but if you feel dullness or it appears on full inspiration, it is abnormal

spec 72% sens 62% ***Traube's space***: Supine with left arm slightly abducted
~~TS: bounded by Left~~ costal margin, 6th rib superiorly and left mid axillary line.
Percuss at different levels in the space, going med to lat.
Patient breathes normally
N: resonant

Palpation: 3 methods (low sens 27%, spec 98%).

2 hand method: Pt. Rt decubitus position
examiner's left hand is kept on the patient, flat on the left lower costal margin, going from front to back, try to lift the lower rib cage ant and med.
Ask patient to breath deeply. With the tips of the rt. Hand fingers, gently press just underneath the lt. Left costal margin.
If don't feel anything, lower the rt. Hand by 2 cm towards umbilicus and repeat the procedure.

One hand method: patient supine.
No pressure applied to the rib cage. Otherwise identical to the 2-hand approach.

Hook method: Supine
Keeps a fist under his lf. Costovertebral angle
Stand on pt's left, facing his leg
With fingers of both hand, make a hook and curl under pt's left lower costal margin and ask him to breath deeply.

Never able to feel the upper border of spleen.

Normally spleen lies
Measure 12 cm in length and 7cm in width
Normal dullness is felt between 9-11 ribs while pt is in rt decub

In normal asymptomatic individuals, with pretest probability of 10% or less, routine exam can not r/I or r/o splenomegaly.

If pretest 10% or more, start with percussion:
- if percussion neg, no need to palpate (not sens or specific). If suspicion remains high, go for US.

5. Ascites Examination

a) Shifting dullness
b) fluid thrill (Massive ascites).

6. Auscultation

- Bowel Sound

1cm — Below Umblicus, absent → if more than 4 min (Paralytic ileus)

- Friction rubs on liver, Spleen
- venous hums, Continous low pitched murmur b/w Xiphisternum and umbilicus (Portal HTN)
- Bruits, Renal Artery Stenosis.

7. Complete your Exam by doing PR and ispect the groin For Hernia (ask the Pt. to Cough), and testicular atrophy (This point For Surgery).

Source: Canvas tomy Inspirations, by Lucci lugee liyeung

Done by:

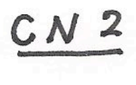
Haneen Al-Maghrabi

Central Nervous System

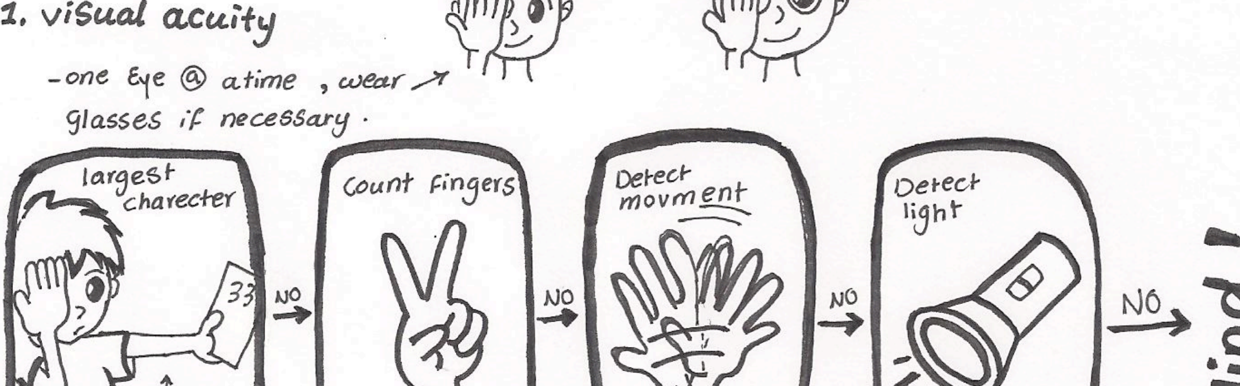
Comment, Conscious, alert and oriented.

CN 2

1. visual acuity



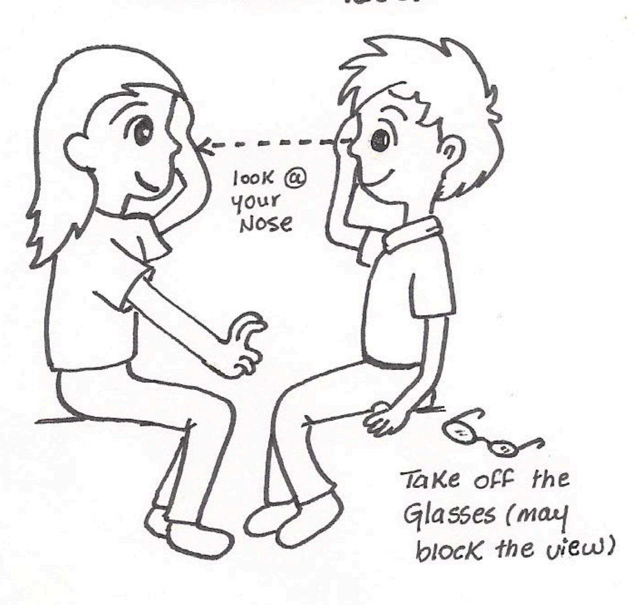
- one Eye @ a time, wear glasses if necessary.

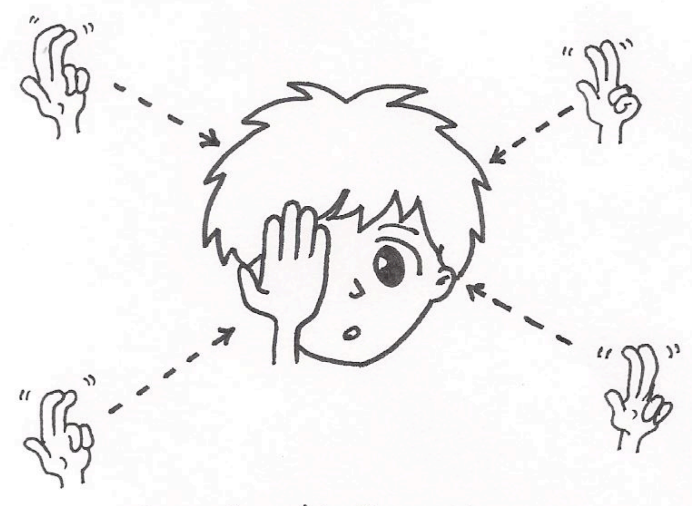


*if the pt. is blind, the Exam can't go on.

2. visual field

- sit on bed side, eyes at the Same level.





- Move hands From Far corner towards center.
- Keep fingers wiggling.
- Ask Pt. when he/She can see the fingers + Compare w̄ your own field.
- Repeat all 4 corners, both Eyes.

3. Indirect and direct light reflex (In by CN 2 / out by CN 3)

- (Inspect pupils under ambient light).

ON → OFF

⇒ Ask the Patient to look in a distance, disacommodate

(Repeat in Both Eyes).

Anisocoria: discrepancy in pubil size.

Indirect light reflex

Direct light reflex

(Pen torch), Shine upwords inferior to lowerlid.

⇒ Normally: constriction

4. Accommodation reflex.

(In by CN2/out CN3)

Ask Pt. to look in to distance

~30 cm

upon focussing on close object (convergence) Pubil should constrict

5. ophthalmoscopy / Fundoscopy.

CN 3, 4, 6

1. Ptosis

CN III lesion, levator palpebrae superioris

2. ExtraOcular Movment

Slowely: look @ Finger

← Finger / pen Horizontal when moving vertically.

Pt. head must not move

Finger / Pen vertical when moving horizontal.

Pause @ corner For a Few sec. to observe Nystagmus

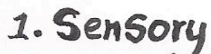
When Diplopia is seen!

Cover one Eye

- If pariphral image disappears, covered Eye has a problem.
- If central image disappears, uncovered Eye has a problem.

Problem Eye sees Periphral!

CN 5

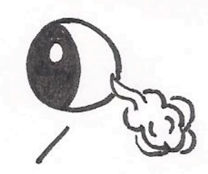


1. Sensory



- close Eyes
- Examine for
  1. Pinprick
  2. light touch
- Examine both : (ophthalmic, maxillary, mandibular area)

2. Corneal Reflex

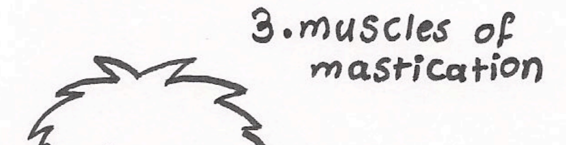


(affrent V, Effrent VII)

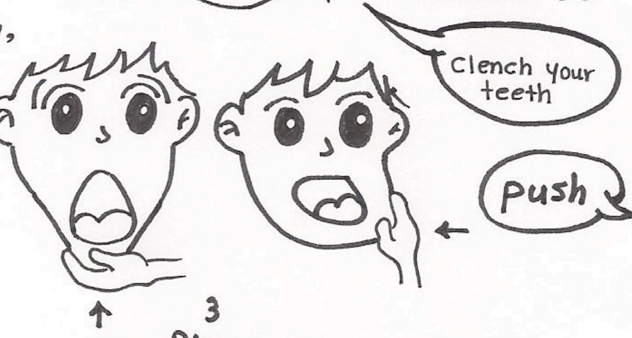
Cotton tip

look @ opposite direction

→ Normal : Blink



3. muscles of mastication



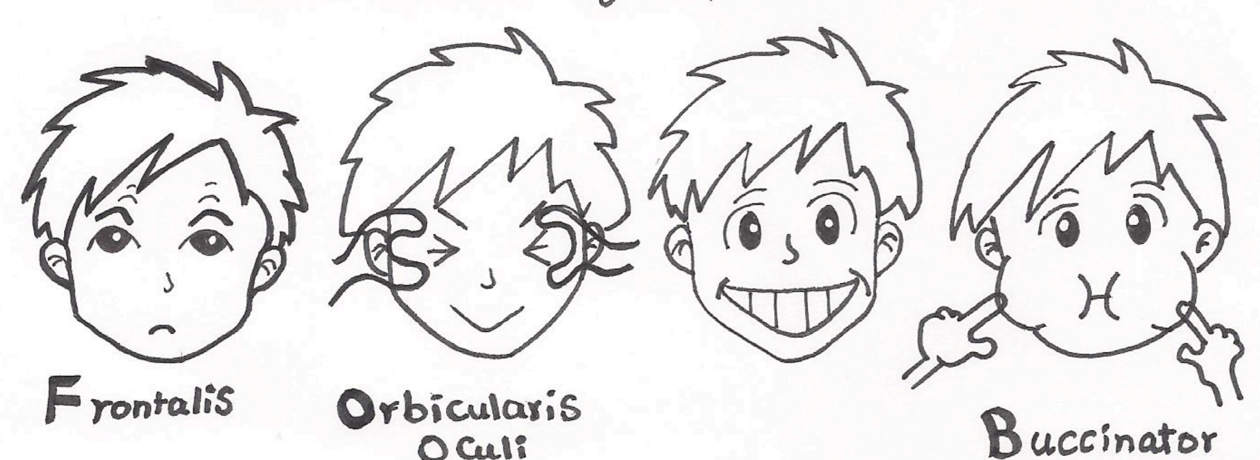
1 Temporalis M.

2 Masseter M.

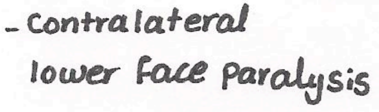
3 Pterygoid muscle

CN 7

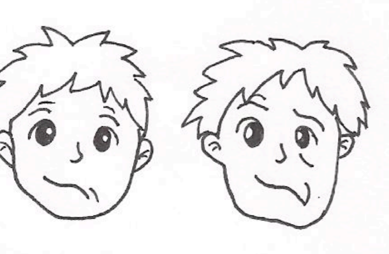
- First check for Asymetry



UMNL



- contralateral lower face paralysis
- upper Face spared



LMNL

(Distal to CN 7 nucleus)

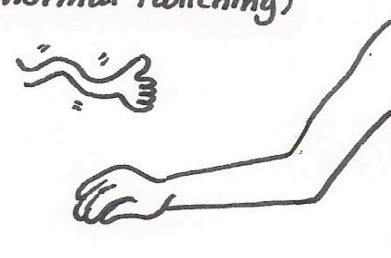
- Ipsilateral upper and lower face paralysis

PNS - upper Limbs

1. Inspection

- wasting / atrophy
- Fasciculation
- Skin changes
- Features of parkinsonism

(Spontaneous, abnormal twitching)



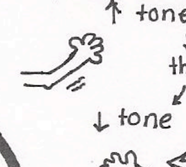
2. Tone

a) lead pipe rigidity
(↑ tone in Flexion and Extension).

b) Cogwheel rigidity



c) clasp Knife spasticity
↑ tone @ start
then
↓ tone



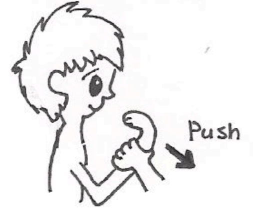
Remember Dominant hand more powerful.

3. Power

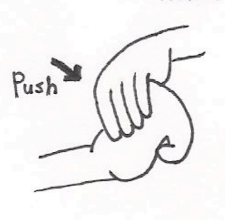
C5 Shoulder abduction
deltoid - axillary N.



C6 Elbow Flexion
Biceps muscle - musculocutaneos N.

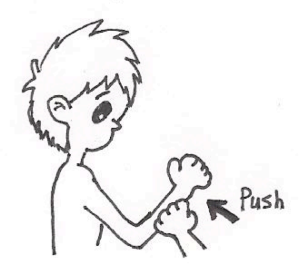


Wrist Extension
ECR - Radial nerve

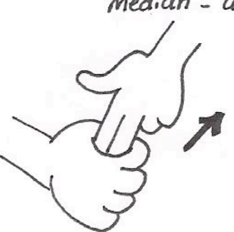


Finger Extension
ED - PIN

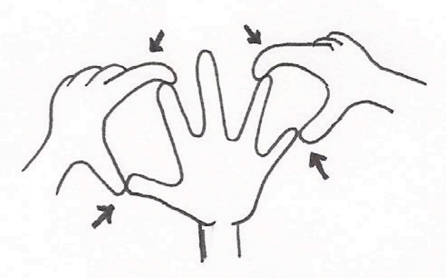
C7 Elbow extension
Triceps - Radial nerve



C8 Finger flexion
flexor digitorum
Median - ulnar N.



T1 Finger / Thumb Abduction



- Dorsal Interosseus - ulner nerve
- Abd. pollicus brevis - median nerve

4. Jerks

UMNL, Hyper-reflexia

LMNL, Hypo-reflexia

Tricep Jerk C6-C7

Bicep Jerk C_5-C_6

Brachioradialis Jerk C_6

5. Coordination

(cerebellum)

1.



- Point at nose, then finger, nose ... etc

⇒ fail = past pointing

2.

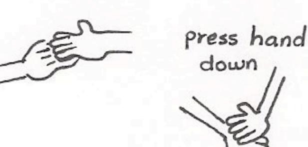


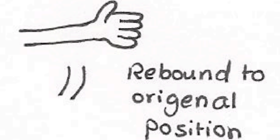
Clap hands when turning one over and over.

fail = Dysdiadochokinesia.



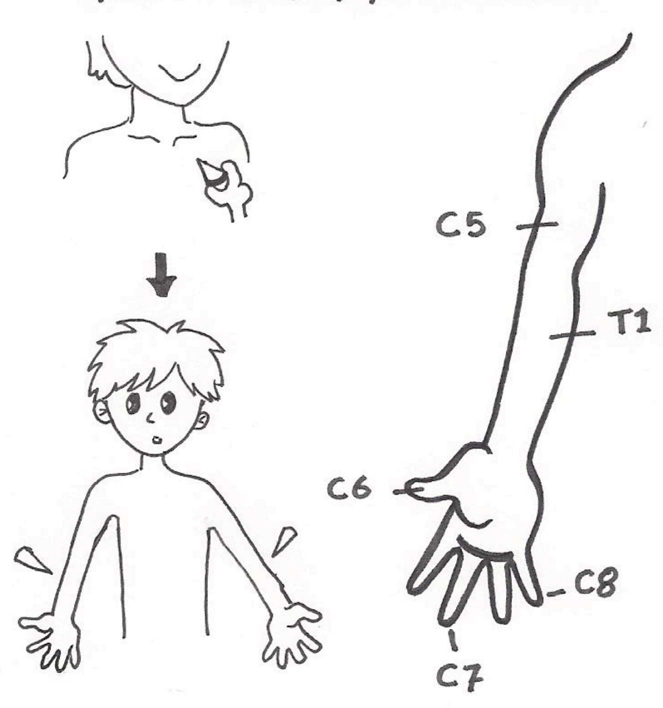
3.





6. Sensation

- PinPrick / Pain (spinothalamic)



- Proprioception (Dorsal colume)



- Hold the nail, to feel the pressure

Up



① move the finger up and down few times

Down

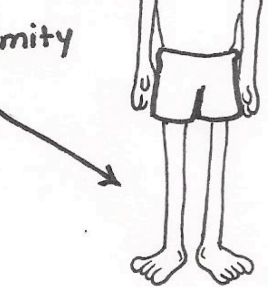


② start from most distal joint then progress proximally

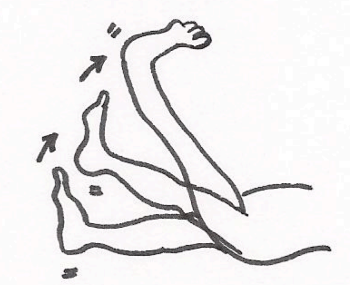
PNS - Lower Limbs

1. Inspection

- Skin changes
- muscle wasting
- Fasciculation
- Asymmetry / deformity
- Tremor



2. Tone



- Ask the pt. to relax
- Assess by feeling the muscle resistance!

=> Note:

1. Clasp -Kinfe
2. lead pipe
3. Cogwheel

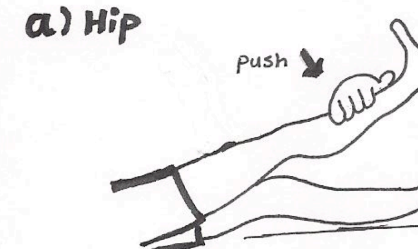
} Hypertonia

4. Hypotonia

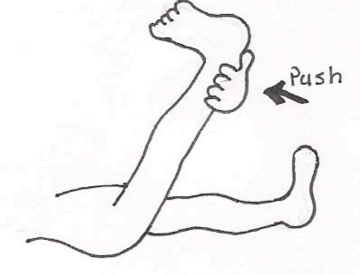
3. Power

(Push against Resistance).

a) Hip



Hib Flexion



Hib Extension

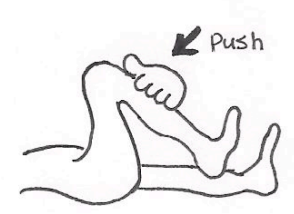
Hib Adduction

Push

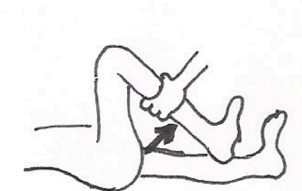
Push

Hib Abduction

b) Knee

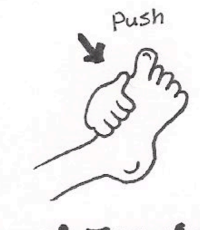


Knee Extension

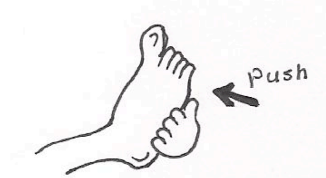


Knee Flexion

c) Ankle



Dorsi Flexion



Planter Flexion

4. Jerks

UMNL
Hyper-reflexia

LMNL
Hypo-reflexia

Knee reflex
(L3 - L4)

(Planter reflex)
S1 - S2

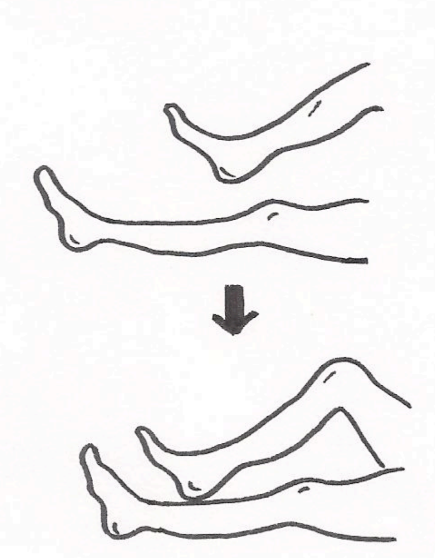
+

Babinski Sign

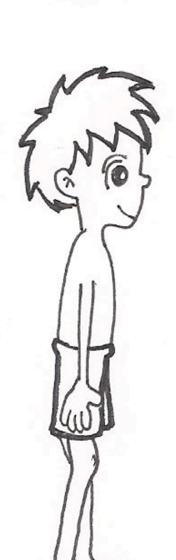
5. Coordination

(Hell - shin test).

⇒ For cerebellar lesion



6. Gait



- ASK the Pt. to walk:
  - walk heel - to - toe
  - walk on toes.
  - walk on heels
  - Squat and then stand
  - Romberg test

    (Ability of the Pt. to maintain the upright posture, when he/ She is closing both Eyes for 20 - 30 sec.).

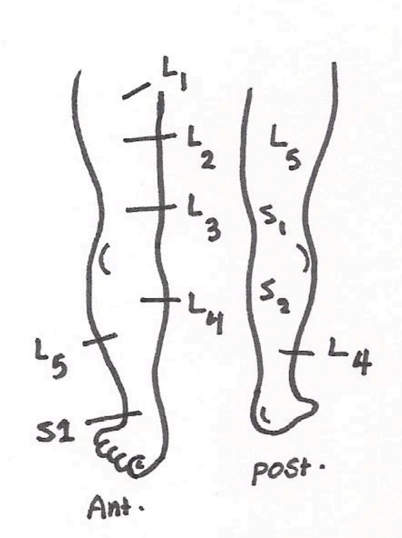
7. Sensation

- Spinothalamic

  (Pain / temp.)

- Post. columns

  (vibration / Proprioception / light touch).



The End

Source: Canvas to my Inspirations by lucci lugee

Done by:
Haneen Al.maghrabi

Vascular Examination

A) Local Examination

- First, Prepare your patient:

1 - warm room
2 - Supine position
3 - Expose both legs

Room Temprature

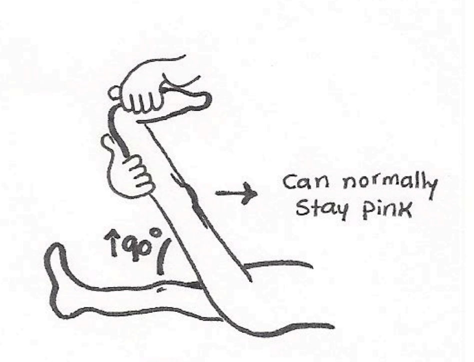
- Inspection

1 - colour (white, Blue, black)
2 - Trophic changes → { - Shiny Skin, - loos of hair, - Ulcers }

* don't forget to look @ pressure areas.

3 - vascular angle (Buerger's angle):

⇒ The angle which the leg must be raised before it becomes white
⇒ In normal person (Elevation > 90° → Stay pink)
⇒ ↓ 20° → sever Ischemia

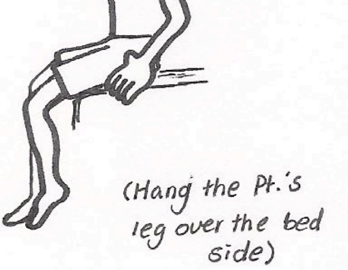


4 - Capillary filling time (Buerger's test):

⇒ Ask the Patient to hang his legs down over the side, **Normal leg** → remain pink
Ischemic leg → (white → Pink → Purple red)

5 - Guttering of the veins.

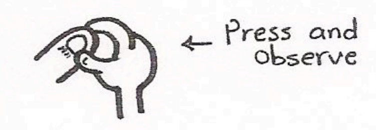
observe any pale blue gutters in the Subcut. tissues.



- **Palpation**

1- ask the Pt. if there's any Pain (watch her / his face)
2- Feel both legs Temprature
3- Capillary Refilling

⇒ Press the tip of the nail / pulp of a toe, for 2 sec. and observe the time needed to turn pink.

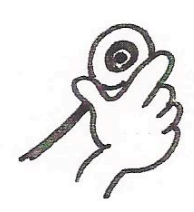


4- Feel all the Pulses, and compare:

- Femoral pulse: mid-way b/w symphysis pubis and ASIS
- Popliteal Pulse: b/w two head of gastrocnemius muscle
- Dorsalis pedis: b/w the first two metatarsals, near upper end of the first Intermetatarsal space.
- Posterior tibial: halfway along the line b/w medial malleolus and the heel.

5- test the muscle, nerves for immobility, weakness, tenderness and numbness.

- **Auscultation**



Use the bell to auscultate for Bruits over: Iliac, Femoral and popliteal Arteries.

B) General Examination

- CVS
- Abdomen, for aortic aneurym
- Carotid bruit
- Radio-Femoral delay.

Haneen Al.maghrabi

Good Luck ..

Ulcer Examination

1. Inspection
2. Palpation
3. Focal Examination
4. Systemic Examination.

1. Inspection

1) Size and Shap of ulcer (2 dimension)
2) Number of ulcer
3) Location:







a) varicose ulcer
↓
on the medial aspect of the lower 1/3 of the leg.

b) Rodent ulcer
↓
at the line joining the angle of the mouth to the ear lobule.

c) Tuberculous Ulcer
↓
Common in the neck, over the site of tuberculos lymphadenopathy



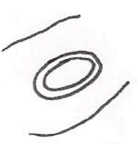
d) Neuropathic ulcer
↓
ulcer in the weight bearing area (over the heel, over the Sacrum)



e) Arterial (Ischemic) ulcer
↓
occur over the Dorsum of the foot and toes.

4) Margin and Edge:

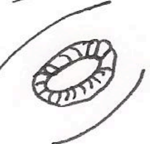
• **Margin**
Border, (Transitional Zone) of the skin around the ulcer.



Healing margin



Inflammed margin



Fibrosed margin

• **Edge**
The mode of union b/w the floor and the margin of the ulcer.



Sloping - healing ulcer

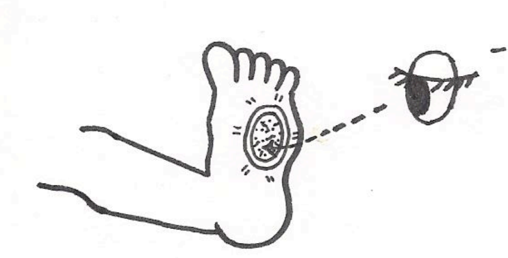
punched out - Syphilis

undermined - TB

Rolled - BCC

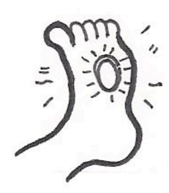
Everted - SCC

5) **floor** : The Exposed Surface of the ulcer.



- Inspect the floor and note :
  1) Type of Granulation tissue
     (Healthy , unhealthy , Pale flat).
  2) Slough (necrotic soft tissue).
  3) Discharge

6) Surrounding area (Skin)



Redness of Skin
↓
Shiny, inflamed
"cellulites"



Dark Pigmentation
↓
varicose vein
"venous ulcer"



Multiple Scars and Puckering
↓
Commonly in the neck
"TB"



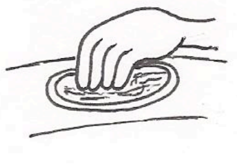
Hypopigmentation
↓
Non-healing ulcer

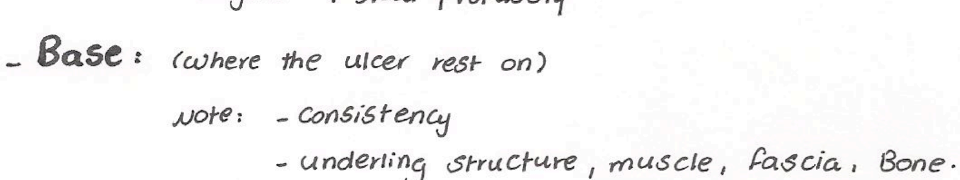
2. Palpation

a) Surrounding Skin (Tempreature , Tenderness).

b) were gloves , Palpate the ulcer for :

- Edge : Soft (healing ulcer)
  Firm (non-healing ulcer)
  Hard (malegnant ulcer)
- Floor : Comments on bleeding on touch,
  healthy → pinpoint bleeding
  malegnant → bleed profusely

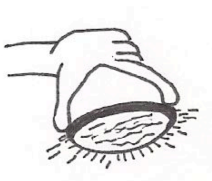




- Base : (where the ulcer rest on)
  Note: - consistency
  - underling structure , muscle , fascia , Bone.

c) Test the Fixity to structure :

move the ulcer side to side
in 2 diffrent directions.



3. Focal Examination

a) palpate regional Lymph node :

Hard , discrete and tender → malegnant

Soft , tender → Infective

Non - tender , matted → TB

b) Examine the related vessels and nerves :

c) Test the movment of neighboring joint :

⇒ Test for active and passive movment

⇒ Restricted movment → muscle , tendon envolument .

4. Systemic Examination

CVS → congestion (CHF) , delays ulcer healing .

RS → For TB

GI → Splenomegaly , Hemolytic anemia , leg ulcers .

Reference : Cassette Clinic videos

Done by :

Haneen Al-maghrabi



Haneen's

Illustrated Physical Examinations Guide

" A picture is worth more than thousand words "!

This illustrated guide comes today, to make physical examinations more easy to understand enjoyable to study, better to remember!

It Illustrates Central Nervous, Cardiovascular, Respiratory, Gastrointestinal , Vascular and ulcer Examinations!

We hope that those examinations become very easy, enjoyable to study and to remember!



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